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energy notes

Welcome, readers, to the third edition of Energy Notes! The Department of Natural Resources and Conservation (DNRC) hopes to bring you Energy Notes every three or four months as an insert in your regular newsletters from the League of Cities and Towns, Montana Association of Counties, Montana School Board Association, and Montana Hospital Association. We are grateful for the support from these organizations.

Energy Notes will offer energy-saving ideas that actually are saving money in Montana communities, information on new products or services that can reduce your energy costs, and news of federal, state, and utility programs that may affect local government energy budgets. We hope to make this publication truly useful. If your organization has used an energy-saving idea that can work for others, please let us know — we can share the information. Also, contact us for information on particular energy matters. Any comments and suggestions for Energy Notes are most welcome. Please send them to: Pat Keating at DNRC's Energy Division (see address and phone number below).

PEER MATCHING PROGRAM

The concept of peer matching has received increasing attention in recent years as a way to share energy-saving information among local governments, schools, public care institutions, and nonprofit hospitals. The intention of the DNRC Peer Matching Program is to stimulate the exchange of useful energy information among the above groups and to address the many energy related problems facing each of them today. This program is an efficient means of information exchange that is economical and applicable to all communities, regardless of size.

DNRC will serve as an advocate in stimulating peer matching between receiving communities and providing communities. DNRC has compiled a list of communities that can supply expertise in energy conservation. This list identifies local officials and staff with energy experience.

DNRC will arrange for a peer match in which a representative from the community in need of help will travel to the community that can provide the expertise. DNRC will then reimburse the traveling party for traveling expenses and per diem (food, lodging, and mileage) costs.

If you have any questions on the Peer Matching Program or would like to make use of it, please contact Cory Plantenberg or Pat Keating at DNRC's Energy Division.

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NEW PUBLICATIONS

The Department has available two new energy conservation publications for local governments in Montana. These two publications are: Local Government Energy Management Series and Energy Conservation Considerations for Wastewater Treatment Plant Operation.

The Local Government Energy Management Series consists of four handbooks:

1. "How to Conserve Energy in Your Lighting System";
2. "How to Conserve Energy in Your Heating, Ventilating and Air Conditioning Systems";
3. "How to Conserve Energy in Your Building Envelope"; and
4. "How to Conserve Energy in Your Domestic Hot Water System".

These handbooks are designed to help you achieve savings in your different energy systems through no-cost and low-cost techniques, but they also introduce some capital investment measures you may want to consider.

In many communities the wastewater treatment plant consumes more electrical energy than any other single electrical customer in the city. At the same time, there is a great potential for energy conservation at these facilities. The "Energy Conservation Considerations for Wastewater Treatment Plant Operation" handbook points out the many steps that can be taken to conserve energy in wastewater treatment plants without disturbing the prescribed water quality level.

If you would like to receive a copy of any of the above publications, please contact Cory Plantenberg or Pat Keating at DNRC.

VEHICLE FUEL CONSERVATION INCENTIVE

Even though we have become used to the high vehicle fuel prices of today, the fact remains that fuel costs have about tripled in the past decade. Furthermore, vehicle fuel purchased now is a significant part of an institutions budget for costs other than wages, salaries, and benefits. But what can an institution do to generate enthusiasm among employees at all levels to conserve scarce resources and thereby reduce taxes? A particularly effective action that an institution can take is to devise an incentive program that allows conscientious employees to immediately share in the dollars saved through cost reduction and productivity improvement measures. Such a program has been successfully implemented by the City of Winter Park, Florida to save fuel.

The basic idea of the vehicle fuel conservation incentive program in Winter Park was to conserve fuel by changing driver attitudes and improving driving habits among city employees. Vacuum gauges were installed on 20 police vehicles and vehicle computers were installed on two instructor vehicles. The officers were taught how to use the vacuum gauge as a continuous indication of fuel consumption. The computer monitored the results of the better driving habits taught to the officers. The two computers cost $325; the vacuum gauges cost $400.

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Since the involvement and interest of the officers were vital to the success of the program, an incentive was established. City management decided that patrol shifts would compete against each other, and that $1,000 would be paid to the shift that had the highest average miles per gallon (MPG) of fuel at the end of each quarter. A baseline was established with which to compare results of the program.

At the end of the first quarter, the average MPG for the competing shifts was 11.2 MPB compared with the original baseline of 7.2 MPG. The winning shift averaged 12.6 MPG. During the program's first year the police department saved $16,136 compared with the previous year. An unanticipated but even greater benefit was the reduction in repair costs for police vehicles by $36,878. Front-end repairs and brake replacements on patrol vehicles were virtually eliminated. Another unexpected bonus was the accident-free record of all trained officers.

ENERGY CONSERVATION MEASURES

The following is a list of potential energy conservation measures and projected payback periods for each measure. Conservation measures for systems that use energy tend to yield a higher return than do modifications on systems that don't use energy. This list was compiled by Bob Walter of the Billings Public Schools and was taken from his paper entitled "A Discussion of Energy Management Systems." This paper was prepared for and presented at the annual meeting of the Montana Association of School Business Officials, at Montana State University, August 9, 1984.

	Conservation Measures	Payback period
1.	Night setback	less than 2 years (energy using system)
2.	Ventilation air reduction	1-3 years (energy using system)
3.	Pipe insulation	2-6 years
4.	Outdoor reset of hot water heat	3-7 years (energy using system)
5.	Hot/cold deck reset	3-7 years (energy using system)
6.	Water heater replacement	3-8 years (energy using system)
7.	Thermostatic radiator control	4-7 years (energy using system)
8.	Light fixture replacement	8-14 years
9.	Building insulation	6-20 years
10.	Window modifications	7-25 years
11.	Chiller system modifications	more than 8 years (energy using system)
12.	Rewire light switching	10-15 years (energy using system)
13.	Vestibules	more than 15 years

The fast payback in items 1 and 2, 'night setback' and 'ventilation air reduction', was indicated in the energy audit of the Billings Public Schools. Functions such as these can be readily controlled by a computerized energy management system. The school district's energy conservation consultant recommended that such a system be installed. The school installed a computerized energy management system and has been pleased with its operation.

For more information contact Bob Walter, Billings Public Schools, 101 10th Street, West, Billings, MT 59102, 248-7421. Copies of his paper are available from DNRC.

If you have any questions or need information about what you read in Energy Notes, please write or call:

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